1992 INDEX

Water Environment Research Monthly Contents, Vol. 64 (1992)

January/February

EDITORIAL

***Water Environment Research*: Challenges and Opportunities**
F. Michael Saunders 3

RESEARCH PAPERS

The use of lime-blended sludge for production of cementitious building material
J.-H. Tay, K.-Y. Show 6

Odor control research at the Montgomery County regional compost facility
L.H. Hentz, Jr., C.M. Murray, J.L. Thompson, L.L. Gasner, J.B. Dunson, Jr. 13

Bench-scale removal of odor and volatile organic compounds at a composting facility
G.P. Van Durme, B.F. McNamara, C.M. McGinley 19

Evaluation of groundwater extraction for remediation of petroleum-contaminated aquifers
R.C. Borden, C.-M. Kao 28

Process control factors influencing *Nocardia* populations in activated sludge
D.K. Cha, D. Jenkins, W.P. Lewis, W.H. Kido 37

A new technique for measuring the ζ-potential of organic sludge floc formed by cationic polyelectrolyte addition: description and application
C. Igarashi, K. Nishizawa 44

Determination of bicarbonate and total volatile acid concentration in anaerobic digesters using a simple titration
G.K. Anderson, G. Yang 53

Use of dilatometric and drying techniques for assessing sludge-dewatering characteristics
J. Robinson, W.R. Knocke 60

Measurement of the apparent diffusion coefficient of trichloroethylene in soil
G.M. Hutter, G.R. Brenniman, R.J. Anderson 69

March/April

EDITORIAL

Evolution?
C.P. Leslie Grady Jr. 99

RESEARCH PAPERS

Effect of measurement error of settling velocity on secondary sedimentation tank design
S.L. Ong 104

Air emission studies of wastewater sludge incinerators at the Western Branch wastewater treatment plant
L.H. Hentz, Jr., F.B. Johnson, A. Baturay 111

Selection and full-scale use of a chelated iron absorbent for odor control
L.A. Mansfield, P.B. Melnyk, G. Richardson 120

Treatment of a high-strength, mixed phenolic waste in an SBR
A. Brenner, R. Chozick, R.L. Irvine 128

Priority pollutant loads from effluent discharges to the San Francisco Estuary
J.A. Davis, A.J. Gunther, J.M. O'Connor 134

Effects of reactor configuration and biomass activity on the performance of upflow static media anaerobic reactors
C.-F. Chiang, R.R. Dague 141

Sludge quality benefits realized from drinking water stabilization
R.D. Kuchenrither, G.K. Elmund, C.P. Houck 150

Laboratory-scale investigation of foaming in anaerobic digesters
R.D. Ross, L.M. Ellis 154

Effects of biologically produced surfactants on the mobility and biodegradation of petroleum hydrocarbons
D.M. Falatko, J.T. Novak 163

Model for predicting PCE desorption from contaminated soils
N. Biswas, R.G. Zytner, J.K. Bewtra 170

Least-squares calibration of QUAL2E
K.W. Little, R.E. Williams 179

1992 INDEX

Water Environment Research Monthly Contents, Vol. 64 (1992)

January/February

EDITORIAL

***Water Environment Research*: Challenges and Opportunities**
F. Michael Saunders 3

RESEARCH PAPERS

The use of lime-blended sludge for production of cementitious building material
J.-H. Tay, K.-Y. Show 6

Odor control research at the Montgomery County regional compost facility
L.H. Hentz, Jr., C.M. Murray, J.L. Thompson, L.L. Gasner, J.B. Dunson, Jr. 13

Bench-scale removal of odor and volatile organic compounds at a composting facility
G.P. Van Durme, B.F. McNamara, C.M. McGinley 19

Evaluation of groundwater extraction for remediation of petroleum-contaminated aquifers
R.C. Borden, C.-M. Kao 28

Process control factors influencing *Nocardia* populations in activated sludge
D.K. Cha, D. Jenkins, W.P. Lewis, W.H. Kido 37

A new technique for measuring the ζ-potential of organic sludge floc formed by cationic polyelectrolyte addition: description and application
C. Igarashi, K. Nishizawa 44

Determination of bicarbonate and total volatile acid concentration in anaerobic digesters using a simple titration
G.K. Anderson, G. Yang 53

Use of dilatometric and drying techniques for assessing sludge-dewatering characteristics
J. Robinson, W.R. Knocke 60

Measurement of the apparent diffusion coefficient of trichloroethylene in soil
G.M. Hutter, G.R. Brenniman, R.J. Anderson 69

March/April

EDITORIAL

Evolution?
C.P. Leslie Grady Jr. 99

RESEARCH PAPERS

Effect of measurement error of settling velocity on secondary sedimentation tank design
S.L. Ong 104

Air emission studies of wastewater sludge incinerators at the Western Branch wastewater treatment plant
L.H. Hentz, Jr., F.B. Johnson, A. Baturay 111

Selection and full-scale use of a chelated iron absorbent for odor control
L.A. Mansfield, P.B. Melnyk, G. Richardson 120

Treatment of a high-strength, mixed phenolic waste in an SBR
A. Brenner, R. Chozick, R.L. Irvine 128

Priority pollutant loads from effluent discharges to the San Francisco Estuary
J.A. Davis, A.J. Gunther, J.M. O'Connor 134

Effects of reactor configuration and biomass activity on the performance of upflow static media anaerobic reactors
C.-F. Chiang, R.R. Dague 141

Sludge quality benefits realized from drinking water stabilization
R.D. Kuchenrither, G.K. Elmund, C.P. Houck 150

Laboratory-scale investigation of foaming in anaerobic digesters
R.D. Ross, L.M. Ellis 154

Effects of biologically produced surfactants on the mobility and biodegradation of petroleum hydrocarbons
D.M. Falatko, J.T. Novak 163

Model for predicting PCE desorption from contaminated soils
N. Biswas, R.G. Zytner, J.K. Bewtra 170

Least-squares calibration of QUAL2E
K.W. Little, R.E. Williams 179

CLOSURE
To Discussion of: **Toxicity assessment of pretreated industrial wastewaters using higher plants**, W. Wang, **62**, 853 (1990); Discussion by J. Lape and P. Bradley, **63**, 824 (1991).
W. Wang 186

May/June

EDITORIAL
GIS and the Environment
P.B. Bedient 195

RESEARCH PAPERS
Removal of arsenic from wastewater using chemical precipitation methods
T.R. Harper, N.W. Kingham 200

Underflow geometry in secondary sedimentation
R.W. Samstag, D.F. Dittmar, Z. Vitasovic, J.A. McCorquodale 204

HIV survivability in wastewater
L.W. Casson, C.A. Sorber, R.H. Palmer, A. Enrico, P. Gupta 214

Anaerobic removal of COD in metal-cutting-fluid wastewater
B.R. Kim, J.F. Zemla, S.G. Anderson, D.P. Stroup, D.N. Rai 217

Biokinetic modeling and scale-up considerations for rotating biological contactors
D.B. Spengel, D.A. Dzombak 224

Advective transport in activated sludge flocs
D. Li, J. Ganczarczyk 237

Modeling of best management practices on North Reelfoot Creek, Tennessee
L.W. Moore, C.Y. Chew, R.H. Smith, S. Sahoo 242

Thermal pretreatment of concentrated distillery spent wash
S.S. Lele, I.Z. Shirgaonkar, J.B. Joshi 249

Aerobic treatment of metal-cutting-fluid wastewater
B.R. Kim, S.G. Anderson, J.F. Zemla 259

Effluent toxicity testing using nitrifiers and Microtox™
W.B. Arbuckle, J.E. Alleman 264

Effect of chemical oxidation on anaerobic biodegradation of model phenolic compounds
Y.-T. Wang 269

Fate of alachlor and atrazine in a riparian zone field site
K.G. Paterson, J.L. Schnoor 275

June
Literature Review Issue

EDITORIAL
Annual Literature Review Genesis
J.E. Alleman 293

ADMINISTRATION
Systems analysis
S.-Y. Chang 297

CHEMICAL ANALYSIS
Organics
M.E. Nubbe, V.D. Adams, R.J. Watts, Y.R. Clark 303

Water characteristics
A.D. Levine, A.R. Bielefeldt 333

WASTEWATER TREATMENT
Physicochemical processes
M.R. Matsumoto, P.M. McGinley, B.E. Reed, J.N. Jensen 337

Activated sludge
M.D. Aitken, P.E. Heck, R.O. Mines, J.H. Sherrard 347

Biological fixed film systems
J. Huang, O.J. Hao, I.A. Al-Ghusian, J.M. Chen, M.H. Kim, K.K. Phul, A.P. Davis 359

Lagoons and ponds
S.J. Stanley, D.W. Smith 367

Anaerobic processes
S. Goodwin, R.F. Hickey 371

Sludge treatment, utilization, and disposal
P.T. Bowen, M.K. Jackson, R.A. Corbitt, N. Gonce 378

On-site alternatives for treatment and disposal
A.R. Jantrania 386

Antimicrobial processes
E.R. Blatchley, III, R.A. Isaac 391

Instrumentation and automation
M.W. Sweeney 398

Optimization of wastewater treatment plant systems
D.D. Truax 400

Water reclamation and reuse
R.G. Smith, M.R. Walker 402

Wastewater collection
J.H. Forbes, Jr. 407

Urban runoff and combined sewer overflow
K.P. Walker 408

INDUSTRIAL WASTES
Food-processing waste
M.B. Borup, D.R. Muchmore 413

Dairy waste
K.A. Radick 417

Agricultural waste
J.L. Walsh, C.C. Ross, G.E. Valentine 418

Textile waste
K.A. Groff 425

Pulp and paper effluent management
S.C. Norton 429

Minerals and mine drainage
W.R. Turney, B.M. Thomson 446

Petroleum processing and synthetic fuels
J.A. Thomas, G. Ganapathi, E.L. Stover 448

Power production waste
M.G. Browman 453

Automotive waste
B.R. Kim 458

Metal finishing and processing
J.D. Enzminger 465

HAZARDOUS WASTES
Hazardous waste treatment technologies
B.J. Kim, C.S. Gee 469

Radioactive waste
B.M. Thomson 479

Hazardous waste: storage, disposal, remediation, and closure
E.F. Millano, H.V. Jones, R.O. Ball 492

FATE AND EFFECTS OF POLLUTANTS
Nonpoint sources
J. Spooner, R.L. Huffman, D.E. Line, J.A. Gale, G.D. Jennings, S.W. Coffey, J.A. Arnold, L. Wyatt D.L. Osmond, S.K. Haseeb 503

Mixing and transport
P. Shanahan 514

Lake and reservoir management
H. Olem, S. Livengood, K.M. Sanda 523

Dissolved oxygen in streams and reservoirs
J.A. Gordon 531

Groundwater
A.S. Mayer, A.J. Rabideau, C.T. Miller 535

Thermal effects
J. Hudson, J.B. Cravens 570

Fate of environmental pollutants
S.C. Chapra, J.M. Boyer

Health effects associated with waste treatment, disposal and reuse
S.E. Hrudey, E.J. Hrudey, N.J. Low 593

Effects of pollution on saltwater organisms
D.J. Reish, P.S. Oshida, A.J. Mearns, T.C. Ginn 599

Aquatic sediments
L.S. Garton, R.L. Autenrieth, J.S. Bonner, B.A. Sylvester 610

Substratum-associated microbiota
C.G. Peterson, N.C. Tuchman 625

Toxic effects of chemicals on microorganisms
R. Barreiro, J.R. Pratt 632

Detection and occurrence of waterborne bacterial and viral pathogens
K.M.E. Emde, H. Mao, G.R. Finch 641

Global climate warming
C.J. Ecsedy, C.G.Murphy 647

Biomonitoring
B.G. Isom 653

July/August

EDITORIAL
The State of *Water Environment Research*
C.N. Haas 659

RESEARCH PAPERS
Analysis of pulp mill effluent contaminants in water, sediment, and fish bile—fatty and resin acids
A. Morales, D.A. Birkholz, S.E. Hrudey 660

Analysis of pulp mill effluent contaminants in water, sediment, and fish muscle—chlorophenols and related compounds
A. Morales, D.A. Birkholz, S.E. Hrudey 669

Biodegradation of PCP enhanced by chemical oxidation pretreatment
S.H. Lee, J.B. Carberry 682

Evaluation of oxygen transfer efficiency and alpha-factor on a variety of diffused aeration systems
K.P. Groves, G.T. Daigger, T.J. Simpkin, D.T. Redmon, L. Ewing 691

Phosphorus sorption by peat and sand amended with iron oxides or steel wool
B.R. James, M.C. Rabenhorst, G.A. Frigon 699

Explaining widely varying biofilm-process performance with normalized loading curves

S.A. Wirtel, D.R. Noguera, D.T. Kampmeier, M.S. Heath, B.E. Rittmann 706

A sequencing biofilm reactor for the treatment of chlorinated solvents using methanotrophs
G.E. Speitel Jr., J.M. Leonard 712

Quantification of wastewater odors by the affected public
M.D. Aitken, M.F. Okun 720

The effect of particulate organic matter on biofilm nitrification
L.A. Figueroa, J. Silverstein 728

A modeling approach for VOC emissions from sewers
R.L. Corsi, D.P.Y. Chang, E.D. Schroeder 734

DISCUSSION
Of: **The sensitivity of *Lemna gibba* G-3 and four clones of *Lemna minor* to eight common chemicals using a 7-day test**, U.M. Cowgill *et al.*, **63**, 991 (1991).
J.W. Cross 742

CLOSURE
To Discussion of: **The sensitivity of *Lemna gibba* G-3 and four clones of *Lemna minor* to eight common chemicals using a 7-day test**, U.M. Cowgill *et al.*, **63**, 991 (1991); Discussion by J.W. Cross, **64**, 742 (1992).
U.M. Cowgill, D.P. Milazzo, B.D. Landenberger 744

DISCUSSION
Of: **Biodegradation kinetics of 4-chlorophenol, an inhibitory co-metabolite**, P.B. Sáez, B.E. Rittmann, **63**, 838 (1991).
R.W. Okey, H.D. Stensel 745

CLOSURE
To Discussion of: **Biodegradation kinetics of 4-chlorophenol, an inhibitory co-metabolite**, P.B. Sáez, B.E. Rittmann, **63**, 838 (1991); Discussion by R.W. Okey, H.D. Stensel, **64**, 745 (1992).
P.B. Sáez, B.E. Rittmann 748

September/October

EDITORIAL
Environmental Risk: What Do We Mean?
S.E. Hrudey 755

RESEARCH PAPERS
Methanotrophic bacteria for nutrient removal from wastewater: attached film system
Y.M. Nelson, M.S. Wilson, W.J. Jewell 756

Activated carbon and synthetic resins as support material for methanogenic phenol-degrading consortia—comparison of surface characteristics and initial colonization
W.B. Kindzierski, M.R. Gray, P.M. Fedorak, S.E. Hrudey 766

Constructed wetland design—the first generation
S.C. Reed, D.S. Brown 776

Development of an off-line enricher-reactor process for activated sludge degradation of hazardous wastes
R.W. Babcock Jr., K.S. Ro, C.C. Hsieh, M.K. Stenstrom 782

Characterization of enzyme activity in activated sludge using rapid analyses for specific hydrolases
B.A. Boczar, W.M. Begley, R.J. Larson 792

Operating capacity of GAC adsorbers—dissolved oxygen and extended service life
R.D. Vidic, M.T. Suidan 798

Biological treatment of kraft mill wastewater
J.A. Oleszkiewicz, W. Trebacz, D.B. Thompson 805

Microbial dynamics in a continuously stirred tank reactor with 100% cell recycle
M.S. Okaygun, A. Akgerman 811

The role of oxygen transfer in acid mine drainage (AMD) treatment
C.C. Hustwit, T.E. Ackman, P.E. Erickson 817

The case for anaerobic reduction of oxygen requirements in biological phosphorus removal systems
C.W. Randall, K.P. Brannan, S.A. McClintock, V.M. Pattarkine 824

RESEARCH NOTES
MetPAD™: a bioassay for rapid assessment of heavy metal toxicity in wastewater
G. Bitton, B. Koopman, O. Agami 834

DISCUSSION
Of: **Effect of water-surface desorption on volatile compound removal under bubble aeration**, S. Kyosai, B.E. Rittmann, **63**, 887 (1991).
Y. Gong, J.V. DePinto 837

CLOSURE
To Discussion of: **Effect of water-surface desorption on volatile compound removal under bubble aeration**, S. Kyosai, B.E. Rittmann, **63**, 887 (1991); Discussion by Y. Gong, J.V. DePinto, **64**, 837 (1992).
S. Kyosai, B.E. Rittmann 839

November/December

EDITORIAL
Regional Monitoring of Oceanic Waters
D.J. Reish 851

RESEARCH PAPERS

Removal of copper(II) using vermiculite
N.C. Das, M. Bandyopadhyay 852

Inferred metal toxicity during the biotreatment of high ammonia landfill leachate
R. Manoharan, S.C. Harper, D.S. Mavinic, C.W. Randall, G. Wang, D.C. Marickovich 858

A comparison of surface-grab and cross sectionally integrated stream-water-quality sampling methods
G.R. Martin, J.L. Smoot, K.D. White 866

Estimation of the removal of organic priority pollutants by the powdered activated carbon treatment process
G.J. O'Brien 877

Effects of biomass entrapment and carrier properties on the performance of an air-fluidized-bed biofilm reactor
T. Tsubone, Y. Ogaki, Y. Yoshiy, M. Takahashi 884

Application of respirometric biodegradability testing protocol to slightly soluble organic compounds
G. Aichinger, C.P.L. Grady Jr., H.H. Tabak 890

Strategy for data analysis in environmental surveys emphasizing the index of biotic similarity and BIOSIM1
J.G. Pearson, C.F.A. Pinkham 901

Resuspension and clearing of dredge spoils after dredging, Cleveland Bay, Australia
E. Wolanski, R. Gibbs 910

RESEARCH NOTES
Another look at thermophilic anaerobic digestion of wastewater sludge
M.D. Aitken, R.W. Mullennix 915

DISCUSSION
Of: **Nitrogen removal in experimental wetland treatment systems: evidence for the role of aquatic plants**, K.H. Rogers *et al.*, **63**, 934 (1991).
R.W. Crites, G. Tchobanoglous 920

CLOSURE
To Discussion of: **Nitrogen removal in experimental wetland treatment systems: evidence for the role of aquatic plants**, K.H. Rogers *et al.*, **63**, 934 (1991); Discussion by R.W. Crites, G. Tchobanoglous, **64**, 920 (1992).
K.H. Rogers 921

DISCUSSION
Of: **Enhanced biodegradation of polyaromatic hydrocarbons in the activated sludge process**, L.J. Cardinal, M.K. Stenstrom, **63**, 950 (1991).
Y.-T. Lu, N.G. Love 922

CLOSURE
To Discussion of: **Enhanced biodegradation of polyaromatic hydrocarbons in the activated sludge process**, L. J. Cardinal, M.K. Stenstrom, **63**, 950 (1991); Discussion by Y.-T. Lu, N.G. Love, **64**, 922 (1992).
L.J. Cardinal, M.K. Stenstrom 924

Water Environment Research Subject/Author Index, Vol. 64 (1992)

2,4-dinitrophenol,
oxidation and anaerobic treatment 268
Absorption,
chelated iron for odor control 120
Ackman, T.E.,
oxygen transfer in mine drainage treatment 817
Activated carbon,
adsorption of metal-cutting fluids 216
adsorption of odors and VOCs 19
support for phenol-degradaing methanogens 766
Activated sludge,
advective transport 236
biological phosphorus removal 824
degradation of hazardous wastes 782
kraft mill waste treatment 805
Literature Review 347
oxygen transfer in diffused aeration 691
with carbon adsorption 877
Activated sludge process,
pretreatment of pentachlorophenol 682
Adams, V.D.,
Literature Review 303
Administration,
Literature Review 293
Adsorption,
effect of oxygen on capacity 798
metal-cutting fluid 216
phenol on activated carbon 766
powdered carbon in activated sludge 877
Aeration,
mine drainage 817
oxygen transfer in diffused aeration 691
Aerobic selectors,
control of *Nocardia* 37
Aerobic treatment,
metal-cutting fluids 258
Agami, O.,
bioassay for heavy metal toxicity 834
Agricultural waste,
Literature Review 418
Agriculture,
arsenate pesticide treatment 200
watershed management 241
Aichinger, G.,
respirometric biodegradabiity testing 890
AIDS,
survivability of HIV in wastewater 213
Air emissions,
sludge incinerators 111
Aitken, M.D.,
Literature Review 347
quantification of wastewater odors 720
thermophilic digestion of sludge 915

Akgerman, A.,
microbial dynamics in a CSTR 811
Al-Ghusain, I.A.,
Literature Review 359
Alachlor,
fate in soil
Alleman, J.E.,
effluent toxicity testing 263
Ammonia,
effect of particulates on nitrificaiton 728
effects of metals on nitrification/
denitrification 858
treatment of leachate 223
Anaerobic digestion,
analysis for bicarbonate and volatile acid 53
foaming study 154
thermal pretreatment of distillery waste 248
Anaerobic processes,
Literature Review 371
Anaerobic systems,
oxygen requirements for phosphorus removal ... 824
Anaerobic treatment
combined with aerobic 258
effect of pre-oxidation 268
metal-cutting fluids 216
upflow static-media reactors 141
Analysis,
bicarbonate and volatile acid in digesters 53
bound water in sludge 60
environmental survey data 901
Anderson, G.K.,
bicarbonate and volatile acid analysis
in digesters 53
Anderson, S.G.,
aerobic treatment of metal-cutting-fluid
wastewater 258
anaerobic treatment of metal-cutting fluids 216
Anderson, R.J.,
diffusion of trichloroethylene in soil 69
Antimicrobial processes,
Literature Review 391
Aquatic sediments,
Literature Review 610
Aquifer,
remediation of petroleum contamination 28
Arbuckle, W.B.,
effluent toxicity testing 263
Arnold, J.A.,
Literature Review 503
Arsenates,
removal by precipitation 200
Atrazine,
fate in soil
Attached films,
nutrient removal in expanded beds 756
Autenrieth, R.L.,
Literature Review 610
Automotive waste,
Literature Review 458
Babcock, R.W. Jr.,
off-line enricher-reactor for degradation
of hazardous wastes 782
Ball, R.O.,
Literature Review 492
Bandyopadhyay, M.,
removal of copper with vermiculite
Barreiro, R.,
Literature Review 632
Batch reactors,
degradation of 1-naphthylamine 782
Baturay, A.,
air emissions from sludge incinerators 111
Begley, W.M.,
characterization of enzyme activity by
hydrolase analysis 792
Best management practices,
model 241
Bewtra, J. K.,
PCE-soil desorption model 170
Bicarbonate,
analysis in digestion 53
Bielefeldt, A.R.,
Literature Review 333
effluent toxicity test 263
Bioassay,
heavy metal toxicity 834
Bioaugmentation,
degradation of 1-naphthylamine 782
Biodegradation,
activated sludge treatment of 1-naphthylamine . 782
characterization by hydrolase analysis 792
effect of surfactants on hydrocarbons 163
organic priority pollutants 877
phenol model 811
preoxidation of pentachlorphenol 682
respirometric testing of organics 890
Biofilm,
in a fluidized bed reactor 884
Biofilms,
effect of particulates on nitrification 728
loading curves for varying performance 706
Biological fixed film systems,
Literature Review 359
Biological treatment,
loading curves for biofilm processes 706
oxygen requirements for phosphorus removal ... 824
Biomonitoring,
Literature Review 653
Biotic similarity,
data analysis 901
Birkholz, D.A.,
chlorinated organics from pulp mill
contaminants in water, sediment, and fish bile .. 669
fatty and resin acids from pulp mill
contaminants 660
Biswas, N.,
PCE-soil desorption model 170
Bitton, G.,
bioassay for heavy metal toxicity 834
Blatchley, E.R., III,
Literature Review 391
Boczar, B.A.,
characterization of enzyme activity by
hydrolase analysis 792
Bonner, J.S.,
Literature Review 610

Borden, R.C.,
remediation of petroleum-contaminated aquifers 28
Borup, M.B.,
Literature Review 413
Bowen, P.T.,
Literature Review 378
Boyer, J.M.,
Literature Review 581
Brannan, K.P.,
oxygen requirements in biological phosphorus removal 824
Brenner, A.,
treatment of phenolics in an SBR 128
Brenniman, G.R.,
diffusion of trichloroethylene in soil 69
Browman, M.G.,
Literature Review 453
Brown, D.,
design of constructed wetlands 776
Calcium,
inhibits copper adsorption 852
Carberry, J.B.,
biodegradation of pentachlorophenol enhanced by oxidation 682
Carbon,
effect of oxygen on phenolics adsorption 798
Carbon adsorption,
in activated sludge 877
Casson, L.W.,
HIV survivability in wastewater 213
Cementation,
lime-blended sludge 6
Ceriodaphnia,
use in effluent bioassays 263
Cha, D.,
Nocardia populations in activated sludge 37
Chang, P.P.Y.,
model of VOC emissions from sewers 734
Chang, S.Y.,
Literature Review 297
Chapra, S.C.,
Literatue Review 581
Chemical industry,
carbon adsorption and activated sludge 877
Chemical analysis,
Literature Review 303
Chemical oxygen demand,
metal-cutting fluid treatment 216
Chen, J.M.,
Literature Review 359
Chew, C.Y.,
model of best management practices 241
Chiang, C. F.,
performance of upflow static media anaerobic reactors 141
Chlorinated solvents,
treatment with methanotrophs in an SBR 712
Chloroform,
treatment with methanotrophs 712
Chlorophenols,
fate in pulp mill effluent 669
Chozick, R.,
treatment of phenolics in an SBR 128
Chromatography,
pulp mill effluent analysis 660,669
Clarification,
sedimentation tank design 104
Clark, Y.R.,
Literature Review 303
Coefficients,
diffusion of TCE in soil 69
Coffey, S.W.,
Literature Review 503
Coliforms,
destruction in sludge digestion 915
Collection systems,
VOC emissions 734
Composting
odor control 13,19
Conditioning,
effect on sludge water content 60
Continuous culture,
phenol biodegradation 811
Coolants,
treatment of metal-cutting fluids 258
Copper,
adsorption on vermiculite 852
Corbitt, R.A.,
Literature Review 378
Corsi, R.L.,
model of VOC emissions from sewers 734
Cravens, J.B.,
Literature Review 570
Cresol,
effect of oxygen on carbon adsorption 798
treatment in an SBR 128
Dague, R. R.,
performance of upflow static media anaerobic reactors 141
Daigger, G.T.,
oxygen transfer and alpha-factor in diffused aeration systems 691
Dairy waste,
Literature Review 417
Das, N.C.,
removal of copper with vermiculite 852
Davis, A.P.,
Literature Review 359
Davis, J. A.,
pollutant loads to San Francisco estuary 134
Denitrification,
metal toxicity in leachate 858
Design,
oxygen transfer in diffused aeration systems 691
RBCs for leachate 223
sedimentation tank 104
upflow anaerobic reactors 141
wetlands 776
Desorption,
PCE-soil model 171
Dewatering,
analysis of water content 60
measurement of zeta potential 44
Diffused aeration,
oxygen transfer 691

Diffusion,
TCE in soil 69
Digestion,
pathogen destruction 915
Dimethyl disulfide,
source of composting odor 13
Dissolved pollutants,
comparison of sampling methods 866
Dissolved oxygen in streams and reservoirs,
Literature Review 523
Dittmar, D.F.,
underflow geometry in secondary sedimentation 204
Dredging,
resuspension of spoil 910
Dunson, J.B., Jr.,
odor control during composting 13
Dzombak, D.A.,
biokinetic modeling and scale-up of RBCs 223
Effects of pollutants,
biological communities 901
Effects of pollution on saltwater organisms,
Literature Review 599
Effluent loads,
San Francisco estuary 134
Effluents,
survivability of HIV in wastewater 213
Electrostatic precipitators,
air emissions from sludge incinerators 111
Ellis, L. M.,
foaming in anaerobic digesters 154
Elmund, G. K.,
effect of drinking water stabilization on sludge quality 150
Emde, K.M.E.,
Literature Review 641
Energy recovery,
from distillery waste 248
Enrico, A.,
HIV survivability in wastewater 213
Enzminger, J.E.,
Literature Review 465
Enzymes,
hydrolase analysis 792
Erickson, P.E.,
oxygen transfer in mine drainage treatment 817
Erosion,
effect on stream sediment loads 241
Escedy, C.J.,
Literature Review 647
Estuary,
monitoring pollutant loads 134
Ewing, L.,
oxygen transfer and alpha-factor in diffused aeration systems 691
Expanded bed,
nutrient removal with methanotrophs 756
Falatko, D. M.,
effects of surfactants on petroleum hydrocarbons 163
Fate and effects of pollutants,
Literature Review 503
Fate of environmental pollutants,
Literature Review 581
Fatty acids,
fate in pulp mill effluent 660
Fecal coliforms,
destruction in sludge digestion 915
Fedorak, P.M.,
activated carbon and resins as supports for methanogens 766
Fenton's reagent,
pretreatment of pentachlorophenol 682
Ferric chloride,
arsenate treatment 200
Figueroa, L.A.,
effect of particulate matter on nitrification 728
Filamentous bacteria,
poor settling in an SBR 128
Finch, G.R.,
Literature Review 641
Fish,
accumulation of pulp mill effluent contaminants 669
Fish bile,
accumulation of pulp mill effluent contaminants 660
Floc,
zeta potential measurement 44
Fluidized bed,
biomass entrapment and carrier properties 884
Foam trapping,
effect on *Nocardia* populations 37
Foaming,
anaerobic digesters 154
Food processing waste,
Literature Review 413
Forbes, J.H., Jr.,
Literature Review 407
Frigon, G.A.,
phosphorus sorption by amended peat and sand 699
Gale, J.A.,
Literature Review 503
Ganapathi, G.,
Literature Review 448
Ganczarczyk, J.J.,
advective transport in sludge flocs 236
Garton, L.S.,
Literature Review 610
Gasner, L.L.,
odor control during composting 13
Gee, C.S.,
Literature Review 469
Gibbs, R.,
resuspension of dredge spoils 910
Ginn, T.C.,
Literature Review 599
Global climate warming,
Literature Review 647
Gonce, N.,
Literature Review 378
Goodwin, S.,
Literature Review 371
Gordon, J.A.,
Literature Review 523

Grab sampling,
comparison with other methods 866
Grady, C.P.L. Jr.,
respirometric biodegradability testing 890
Gray, M.R.,
activated carbon and resins as supports for methanogens 766
Groff, K.A.,
Literature Review 418
Groundwater,
diffusion of TCE in soil 69
Literature Review 535
treatment of chlorinated compounds in an SBR 712
Groundwater extraction,
aquifer remediation 29
Groves, K.P.,
oxygen transfer and alpha-factor in diffused aeration systems 691
Gunther, A. J.,
pollutant loads to San Francisco estuary 134
Gupta, P.,
HIV survivability in wastewater 213
Hao, O.J.,
Literature Review 359
Harper, T.R.,
arsenic removal by chemical precipitation 200
Haseeb, S.K.,
Literature Review 503
Hazardous waste treatment technologies,
Literature Review 469
Hazardous wastes,
degradation in activated sludge process 782
Literature Review 469
storage, disposal, remediation, and closure, Literature Review 492
TCE diffusion in soil 69
Health effects associated with waste treatment, disposal, and reuse,
Literature Review 593
Heath, M.S.,
normalized loading curves for biofilm processes 706
Heavy metals,
bioassay for toxicity 834
Heck, P.E.,
Literature Review 347
Hentz, L. H. Jr.,
air emissions from sludge incinerators 111
odor control during composting 13
Hickey, R.F.,
Literature Review 371
HIV,
survivability in wastewater 213
Houck, C. P.,
effect of drinking water stabilization on sludge quality 150
Hrudey, S.E.,
activated carbon and resins as supports for methanogens 766
chlorinated organics from pulp mill contaminants in water, sediment, and fish bile .. 669
fatty and resin acids from pulp mill contaminants 660
Literature Review 593
Hrudey, E.J.,
Literature Review 593
Hseih, C.,
off-line enricher-reactor for degradation of hazardous wastes 782
Huang, J.,
Literature Review 359
Hudson, J.,
Literature Review 570
Huffman, R.L.,
Literature Review 503
Huswit, C.C.,
oxygen transfer in mine drainage treatment 817
Hutter, G.M.,
diffusion of trichloroethylene in soil 69
Hydrocarbons,
effect of surfactants on biodegradation and mobility 163
remediation of aquifer 28
Hydrogen peroxide,
oxidation of phenols 268
pretreatment of pentachlorophenol 682
removal of composting odorants 13
Hydrogen sulfide
chelated iron absorption 120
Igarashi, C.,
zeta potential of sludge flocs 44
Incineration,
air emissions 111
lime-blended sludge for building material 6
Index,
biotic similarity 901
Indicator organisms,
thermophilic anaerobic digestion 915
Industrial waste,
distillery waste treatment 248
heavy metal bioassay 834
kraft mill effluent 805
Literature Review 413
metal-cutting fluids 216, 258
organic chemicals 877
pulp mill effluent 660,669
Inhibition,
effect of particulates on nitrification 728
effluent toxicity tests 263
Instrumentation and automation,
Literature Review 398
Ion exchange resins,
support for phenol degrading methanogens 766
Iron,
absorbent for odor control 120
in peat and sand adsorption of phosphorus 699
Irvine, R. L.,
treatment of phenolics in an SBR 128
Isaac, R.A.,
Literature Review 391
Isom, B.G.,
Literature Review 653
Isotherm,
copper adsorption on vermiculite 852
effect of oxygen on phenolics adsorption 798

PCE desorption from soil 171
Isotherms,
adsorption of phosphorus by peat and sand 699
Jackson, M.K.,
Literature Review 378
James, B.R.,
phosphorus sorption by amended peat and sand 699
Jenkins, D.,
Nocardia populations in activated sludge 37
Jennings, G.D.,
Literature Review 503
Jensen, J.N.,
Literature Review 337
Jewell, W.J.,
methanotrophic bacteria for nutrient removal 756
Johnson, F. B.,
air emissions from sludge incinerators 111
Jones, H.V.,
Literature Review 492
Joshi, J.B.,
thermal pretreatment of distillery effluent 248
Kampmeier, D.T.,
normalized loading curves for biofilm processes 706
Kao, C.M.,
remediation of petroleum-contaminated aquifers 28
Kido, W.H.,
Nocardia populations in activated sludge 37
Kim, B.J.,
Literature Review 469
Kim, B.R.,
aerobic treatment of metal-cutting-fluid wastewater 258
anaerobic treatment of metal-cutting fluids 216
Literature Review 458
Kim, M.H.,
Literature Review 359
Kindzierski, W.B.,
activated carbon and resins as supports for methanogens 766
Kinetic modeling,
RBCs 223
Kinetics,
phenol biodegradation 811
respirometric testing of biodegradability 890
Kingham, N.W.,
arsenic removal by chemical precipitation 200
Knocke, W.R.,
dilatometric and drying techniques for assessing sludge water content 60
Koopman, B.,
bioassay for heavy metal toxicity 834
Kraft mill waste,
biological treatment 805
Kuchenrither, R. D.,
effect of drinking water stabilization on sludge quality 150
Lagoons,
kraft mill waste treatment 805
Lagoons and ponds,
Literature Review 367
Lake and reservoir management,
Literature Review 523
Landfill,
metals toxicity during leachate treatment 858
Larson, R.J.,
characterization of enzyme activity by hydrolase analysis 792
Leachate treatment,
effect of metal on nitrification 858
treatment in RBCs 223
Leaching,
PCE desorption from soil 171
Lee, S.H.,
biodegradation of pentachlorophenol enhanced by oxidation 682
Lele, S.S.,
thermal pretreatment of distillery effluent 248
Leonard, J.M.,
SBR for treatment of chlorinated solvents with methanotrophs 712
Levine, A.D.,
Literature Review 333
Lewis, W.P.,
Nocardia populations in activated sludge 37
Li, D.,
advective transport in sludge flocs 236
Lime,
arsenate treatment 200
blended with sludge for building material 6
Line, D.E.,
Literature Review 503
Lipids,
biodegradation 792
Liptak, S.C.,
metal toxicity in treatment of high ammonia leachate 858
Little, K. W.,
calibration of QUAL2E model 179
Livengood, S.,
Literature Review 523
Loading rates,
effect on digester foaming 154
Low, N.J.,
Literature Review 593
Lubricants,
treatment of metal-cutting fluids 258
Manhoaran, R.,
metal toxicity in treatment of high ammonia leachate 858
Mansfield, L. A.,
chelated iron absorbent for odor control 120
Mao, H.,
Literature Review 641
Maricokovich, D.C.,
metal toxicity in treatment of high ammonia leachate 858
Martin, G.R.,
comparison of water quality sampling methods 866
Mass transfer,
model of VOCs from sewers 734
Matusmoto, M.R.,
Literature Review 337
Mavinic, D.S.,
metal toxicity in treatment of high

amonia leachate 858
Mayer, A.S.,
Literature Review 535
McClintock, S.A.,
oxygen requirements in biological phosphourus removal 824
McCorquodale, Z.,
underflow geometry in secondary sedimentation 204
McGinley, C.M.,
removal of odor and VOCs from composting 19
McGinley, P.M.,
Literature Review 337
McNamara, B.,
removal of odor and VOCs from composting 19
Mean cell residence time,
washout of *Nocardia* 37
Mearns, A.J.,
Literature Review 599
Melnyk, P. B.,
chelated iron absorbent for odor control 120
Metal finishing and processing,
Literature Review 465
Metals,
adsorption of copper on vermiculite 853
air emissions from sludge incinerators 111
bioassay testing 834
effect of drinking water stabilization on sludge 150
monitoring loads to bay 134
toxicity in leachate nitrification/ denitrification 858
Methane,
energy source for nutrient removal 756
Methanogens,
carbon and resins as support material 766
effect of oxidation on toxicity 268
Methanotrophs,
nutrient removal in expanded beds 756
treatment of chlororganics in an SBR 712
Microtox™,
effluent bioassays 263
Millano, E.F.,
Literature Review 492
Miller, C.T.,
Literature Review 535
Mine drainage,
treatment model for iron oxidation 817
Minerals and mine drainage,
Literature Review 446
Mines, R.O.,
Literature Review 347
Mixing and transport,
Literature Review 514
Model,
activated sludge and carbon adsorption 877
aquifer remediation 28
best management practices 241
biofilm processes 706
calibration of QUAL2E 179
kinetics of RBCs 223
oxidation of mine drainage 817
pesticide transport 274
phenolics adsorption on carbon 798
sedimentation tank design 104
sludge floc settling 236
TCE diffusion in soil 69
VOC emissions from sewers 734
Monitoring,
comparison of sampling methods 866
effluent pollutant loads 134
Monte Carlo method,
QUAL2E model 179
sedimentation tank design 104
Moore, L.W.,
model of best management practices 241
Morales, A.,
chlorinated organics from pulp mill contaminants in water, sediment, and fish bile 669
fatty and resin acids from pulp mill contaminants 660
Muchmore, D.R.,
Literature Review 413
Mullenix, R.W.,
thermophilic digestion of sludge 915
Murphy, C.G.,
Literature Review 647
Murray, C.M.,
odor control during composting 13
Nelson, Y.M.,
methanotrophic bacteria for nutrient removal 756
Nishizawa, K.,
measuring zeta potential of sludge flocs 44
Nitrification,
effect of particulates 728
metal toxicity in leachate 858
RBC leachate treatment 223
Nitrifiers,
for effluent bioassay 263
Nitrogen removal,
from metal-cutting fluids 258
Nitrogen,
removal in wetlands 776
Nocardia,
process factors 37
Noguera, D.R.,
normalized loading curves for biofilm processes 706
Nonpoint pollution,
BMPs for agriculture 241
Nonpoint sources,
Literature Review 503
Norton, S.C.,
Literature Review 429
Novak, J. T.,
effects of surfactants on petroleum hydrocarbons 163
Nubbe, M.E.,
Literature Review 303
Nutrient removal,
phosphorus adsorption on peat and sand 699
Nutrients,
methane as energy source for removal 756
O'Brien, G.J.,
removal of priority pollutants by activated carbon 877

O'Connor, J.M.,
pollutant loads to San Francisco estuary 134
***o*-cresol,**
oxidation and anaerobic treatment 268
Odor,
chelated iron absorption 120
control in composting 13,19
public panel to determine sources 720
Off-gas analysis,
measure of oxygen transfer 691
Ogaki, Y.,
biomass entrapment in a fluidized bed reactor 884
Okaygun, M.S.,
microbial dynamics in a CSTR 811
Okun, M.F.,
quantification of wastewater odors 720
Olem, H.,
Literature Review 523
Oleszkiewicz, J.A.,
biological treatment of kraft mill waste 805
On-site alternatives for treatment and disposal,
Literature Review 386
Ong, S. L.,
effect of error on sedimentation tank design 104
Operation,
wetlands for treatment 776
Optimization of wastewater treatment plants,
Literature Review 400
Organic chemicals,
respirometric testing of biodegradability 890
Organic loading,
effect on plant loading 720
Organic matter,
effect of particulates on nitrification 728
Organics,
Literature Review 303
treatment of metal-cutting fluids 258
Organochlorines,
kraft mill waste treatment 805
Oshida, P.S.,
Literature Review 599
Osmond, D.L.,
Literature Review 503
Oxidation,
chemical pretreatment of pentachlorophenol 682
effect on anaerobic biodegradation 268
model for mine drainage 817
to remove composting odors 13
Oxygen,
effect on phenol adsorption 798
requirements for biological phosphorus removal 824
sources in wetlands 776
Oxygen demand,
upflow anaerobic reactors 141
Oxygen transfer,
diffused aeration 691
mine drainage treatment 817
model for mine drainage treatment 817
Oxygen uptake,
respirometric testing of biodegradability 890
Ozone,
oxidation of phenols 268
Palmer, R.H.,
HIV survivability in wastewater 213
Particle size,
sludge flocs 236
Particles,
measuring floc zeta potential 44
Particulates,
effect on nitrification 728
Paterson, K.G.,
fate of pesticides in a riparian zone 274
Pathogens,
destruction in anaerobic thremophilic digestion 915
HIV survivability in wastewater 213
Pattarkine, V.M.,
oxygen requirements in biological phosphorus removal 824
Pearson, J.G.,
data analysis in environmental surveys 901
Peat,
Fe-amended adsorption of phosphorus 699
Pentachlorophenol,
biodegradation enhanced by oxidation 682
Perchloroethylene,
desorption from soil 171
Performance,
upflow anaerobic reactors 141
wetlands for treatment 776
Permeability,
sludge flocs 236
Pesticides,
arsenate treatment 200
fate in soil 274
Peterson, C.G.,
Literature Review 625
Petrochemicals,
effect of surfactants on biodegradation and mobility 163
Petroleum,
aquifer remediation 28
Petroleum processing and synthetic fuels,
Literature Review 448
Phenol,
biodegradation kinetics 811
Phenolic compounds,
treatment in an SBR 128
Phenols,
chemical oxidation and anaerobic treatment 268
degradation on activated carbon and synthetic resins 766
polymerization during carbon adsorption 798
Phosphorus,
precipitation inhibits nitrification/ denitrification 858
Phosphorus removal,
adsorption on peat and sand 699
oxygen requirements 824
Photobacterium,
effluent bioassays 263
Phthalate esters,
respirometric testing of biodegradability 890
Phull, K.K.,

Literature Review 359
Physicochemical processes,
Literature review 337
Pinkham, C.F.,
data analysis in environmental surveys 901
Plant uptake,
role in pesticide transport 274
Polyelectrolyte,
measuring zeta potential of sludge floc 44
Polymer,
carrier for fluidized-bed reactor 884
Polynuclear aromatic hydrocarbons,
respirometric testing of biodegradability 890
Porosity,
effect on TCE diffusion in soil 69
sludge flocs 236
Potable water,
effect of stabilization on sludge quality 150
Potassium permanganate,
oxidation of phenols 268
Powdered activated carbon
removal of organic pollutants 877
Power production waste,
Literature Review 453
Pratt, J.R.,
Literature Review 632
Precipitation,
for arsenic removal 200
Primary effluent,
Nocardia populations 37
Process factors
effect on *Nocardia* growth 37
Process performance,
loading curves for biofilms 706
Proteins,
biodegradation 792
Public reaction,
wastewater odors 720
Pulp and paper waste,
biological treatment 805
Pulp mills,
effluent contaminants in water, sediment, and fish 660,669
Pulp and paper effluent management,
Literature Review 429
Rabenhorst, M.C.,
phosphorus sorption by amended peat and sand 699
Rabideau, A.J.,
Literature Review 535
Raddick, K.A.,
Literature Review 417
Radioactive waste,
Literature Review 469
Rai, D.N.,
anaerobic treatment of metal-cutting fluids 216
Randall, C.W.,
metal toxicity in treatment of high ammonia leachate 858
oxygen requirements in biological phosphorus removal 824
Reactor,
biomass entrapment and carrier properties for degradation of 1-naphthylamine 782
in a fluidized bed 884
Redmon, D.T.,
oxygen transfer and alpha-factor in diffused aeration systems 691
Reed, B.E.,
Literature Review 337
Reed, S.,
design of constructed wetlands 776
Reish, D.J.,
Literature Review 599
Resin acids,
fate in pulp mill effluent 660
Resins,
support for phenol-degrading methanogens 766
Reuse,
effect of water stabilization on sludge 150
Richardson, G. C.,
chelated iron absorbent for odor control 120
Rittman, B.E.,
normalized loading curves for biofilm processes 706
Ro, K.S.,
off-line enricher-reactor for degradation of hazardous wastes 782
Robinson, J.,
dilatometric and drying techniques for assessing sludge water content 60
Ross, C.C.,
Literature Review 418
Ross, R. D.,
foaming in anaerobic digesters 154
Rotating biological contactors,
effect of particulates on nitrification 728
kinetics 223
Sahoo, S.,
model of best management practices 241
Salinity,
resuspension of dredge spoil 910
Samstag, R.W.,
underflow geometry in secondary sedimentation 204
Sand,
Fe-amended adsorption of phosphorus 699
Sanda, K.M.,
Literature Review 523
Schnoor, J.L.,
fate of pesticides in a riparian zone 274
Schroeder, E.D.,
model of VOC emissions from sewers 734
Seasonal factors,
effect on plant odors 720
Sediment,
effect on erosion 241
resuspension of dredge spoil 910
Sedimentation,
errors in tank design 104
Sediments,
comparison of sampling methods 866
pulp mill effluent contaminants 660,669
Sequencing batch reactor,
kraft mill waste treatment 805
treatment of phenols 128

treatment of chlorinated compounds with methanotrophs 712
Settling,
sludge flocs 236
Settling velocity,
sedimentation tank design 104
Shanahan, P.,
Literature Review 514
Sherrard, J.H.,
Literature Review 347
Shirgaonkar, I.Z.,
thermal pretreatment of distillery effluent 248
Show, K-Y.,
use of lime-blended sludge as building material 6
Silverstein, J.,
effect of particulate matter on nitrification 728
Similarity,
index for biological communities 901
Simpkin, T.J.,
oxygen transfer and alpha-factor in diffused aeration systems 691
Simulation,
BMPs in agricultural watershed 241
Sludge,
air emissions from incinerators 111
analysis of bound water 60
bicarbonate and volatile acid analysis in digesters 53
blending with lime for building material 6
bulking in SBR 128
effect of particle size on settling 236
effect of drinking water stabilization on quality 150
pathogen destruction in thermophilic digestion 915
Sludge floc,
measuring zeta potential 44
Sludge treatment, utilization and disposal,
Literature Review 378
Smith, D.W.,
Literature Review 367
Smith, R.G.,
Literature Review 402
Smith, R.H.,
model of best management practices 241
Smoot, J.L.,
comparison of water quality sampling methods 866
Sodium hypochlorite,
oxidation of composting odorants 13
Soil,
diffusion of TCE 69
PCE desorption 171
Solids residence time,
treatment of kraft mill waste 805
Sorber, C.A.,
HIV survivability in wastewater 213
Speitel, Jr., G.E.,
SBR for treatment of chlorinated solvents with methanotrophs 712
Spengel, D.B.,
biokinetic modeling and scale-up of rotating biological contactors 223
Spills,
diffusion of TCE in soil 69
Spooner, J.,
Literature Review 503
Stanley, S.J.,
Literature Review 367
Stenstrom, M.K.,
off-line enricher-reactor for degradation of hazardous wastes 782
Stover, E.L.,
Literature Review 448
Streaming potential,
zeta potential measurement 44
Streams,
comparison of sampling methods 866
Stroup, D.P.,
anaerobic treatment of metal-cutting fluids 216
Substratum-associated microbiota,
Literature Review 625
Suidan, M.T.,
operating capacity of activated carbon adsorbers 798
Sulfur compounds,
source of odor in composting 13
Surfacants,
enhancement of organics removal 13
effect on mobility and biodegradation of hydrocarbons 163
Surface water,
pulp mill effluent contaminants 660, 669
resuspension of dredge spoil 910
transport of pesticides 274
Suspended sediment,
resuspension of dredge spoil 910
Sweeney, M.W.,
Literature Review 398
Sylvester, B.A.,
Literature Review 610
Systems analysis,
Literature Review 297
Tabak, H.H.,
respirometric biodegradability testing 890
Takahashi, M.,
biomass entrapment in a fluidized bed reactor 884
Tay, J-H.,
use of lime-blended sludge as building material 6
Temperature,
resuspension of dredge spoil 910
Tertiary treatment,
nutrient removal with methanotrophs 756
Textile waste,
Liteature Review 418
Thermal effects,
Literature Review 570
Thermal treatment,
distillery effluent 248
Thermophilic digestion,
pathogen destruction 915
Thickening,
sedimentation tank design 104
Thomas, J.A.,

Literature Review 448
Thompson, D.,
biological treatment of kraft mill waste 805
Thompson, J.L.,
odor control during composting 13
Thomson, B.M.,
Literature Review 446,469
Toxic effects of chemicals on microorganisms,
Literature Review 632
Toxicity,
effect of oxidation of methanogens 268
effluent bioassays 263
heavy metals bioassay 834
metals in leachate nitrification/
denitrification 858
Trace elements,
monitoring loads to bay 134
Transport,
pesticides in soil 274
Trevacz, W.,
biological treatment of kraft mill waste 805
Trichloroethylene,
diffusion in soil 69
Truax, D.D.,
Literature Review 400
Tsubone, T.,
biomass entrapment in a fluidized bed
reactor 884
Tuchman, N.C.,
Literature Review 625
Turbulence,
effect of resuspension of dredge spoil 910
Turney, W.R.,
Literature Review, ... 446
Urban runoff and combined sewer overflow,
Literature Review 408
Valentine, G.E.,
Literature Review 418
Van Durme, G.P.,
removal of odor and VOCs from composting 19
Vermiculite,
copper adsorption 852
Vidic, R.D.,
operating capacity of activated carbon
adsorbers 798
Viruses,
HIV in wastewater 213
Vitasovic, Z.,
underflow geometry in secondary
sedimentation 204
Volatile acid,
analysis in digestion 53
Volatile organic compounds,
adsorption 19
incinerator air emissions 111
model of emissions 734
Walker, K.P.,
Literature Review 408
Walker, M.R.,
Literature Review 402
Walsh, J.L.,
Literature Review 418
Wang, G.,
metal toxicity in treatment of high
ammonia leachate 858
Wang, Y.,
chemical oxidation and anaerobic
biodegradation of phenols 268
Wastewater,
odor sources 720
Wastewater collection,
Literature Review 407
Wastewater treatment,
Literature Review 337
Water characteristics,
Literature Review 333
Water quality,
comparison of sampling methods 866
QUAL2E model 179
Water reclamation and reuse,
Literature Review 402
Waterborne pathogens,
Literature Review 641
Watts, R.J.,
Literature Review 303
Wetlands,
design 776
White, K.D.,
comparison of water quality sampling methods 866
Williams, R. E.,
calibration of QUAL2E model 179
Wilson, M.S.,
methanotrophic bacteria for nutrient removal 756
Wind,
effect on plant odors 720
Wirtel, S.A.,
normalized loading curves for biofilm
processes 706
Wolanski, E.,
resuspension of dredge spoils 910
Wyatt, L.,
Literature Review 503
Xenobiotic chemicals,
biodegradation 792
Yang, G.,
bicarbonate and volatile acid analysis
in digesters 53
Yoshiy, Y.,
biomass entrapment in a fluidized bed
reactor 884
Zemla, J.F.,
aerobic treatment of metal-cutting-fluid
wastewater 258
anaerobic treatment of metal-cutting fluids 216
Zeta potential,
measurement of 44
Zytner, R. G.,
PCE-soil desorption model 170